# ASSESSMENT OF PATIENT SATISFACTION WITH PERIOPERATIVE ANAESTHETIC CARE AND ASSOCIATED FACTORS AT MUHIMBILI ORTHOPAEDIC INSTITUTE (MOI)

**Djaffar Said, MD**

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# Assessment of Patient Satisfaction with Perioperative Anaesthetic Care and Associated Factors at Muhimbili Orthopaedic Institute (MOI)

**By**

**Djaffar Said**

**A Dissertation Submitted in (partial) Fulfilment of the Requirements for the Degree of Master of Medicine (Anaesthesiology) of Muhimbili University of Health and Allied Sciences**
**October, 2021**

## CERTIFICATION

The undersigned certify that they have read and hereby recommend for examination of dissertation entitled; '**Assessment of Patient Satisfaction with Perioperative Anaesthetic Care and Associated Factors at Muhimbili Orthopaedic Institute (MOI)'**, in fulfilment of the requirements for the degree of Master of Medicine (Anaesthesiology) of Muhimbili University of Health and Allied Sciences.

_____

**Dr. Edwin Lugazia**

(Supervisor)

_____

**Date**

## DECLARATION AND COPYRIGHT

I, **Djaffar Said**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature…….……. Date……...….....

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## DEDICATION

This study is dedicated to the anaesthesia family who sacrifice themselves just to get patients feeling well as much as possible. Also the study dedicated to the people who tirelessly supported me, through their respective resources and means.

# ABSTRACT

**Background:** Patient satisfaction is an important indicator to measure the quality of health care and affects clinical outcomes. Therefore, its appraisal may allow improved therapeutic care with wonderful outcomes; hence a high level of satisfaction.

In 2018, three different reports from WHO have emphasised the facts that improvement of quality of care is still indispensable. These reports show that measuring healthcare outcomes lead to the positive achievement of some aims of healthcare such as improved patient experience of care, reduced clinician and staff burnout. Anaesthesia care impacts all processes of surgery; thus, patient satisfaction contributes to a balanced evaluation of the structure, process and outcome of service. Patient satisfaction has been widely studied around the world. However, in Tanzania, there is no evidence about patient satisfaction with anaesthesia care.

**Broad objective:** To evaluate the level of patient satisfaction with perioperative anaesthetics care within 24 hours post-surgery and to determine the associated factors.

**Method:** This is a descriptive qualitative study that was conducted at the Muhimbili Orthopaedic Institute (MOI) in Dar Es Salaam, Tanzania; from January 2021 to March 2021. Patients planned for elective procedures which required anaesthesia care were sampled conveniently. Those who fulfilled inclusion criteria (such as the age of 18 years and above, full conscious patient post-operatively, ASA state I-III) and Consented to take part in the study were enrolled.

The Leiden Perioperative care Patient Satisfaction questionnaire (LPPSq) was used to collect data within 24 hours post-surgery through a face-to-face interview.

Data analysis was done using SPSS version 20 by a descriptive statistical analysis for categorical variables and Chi-square test for associations.

**Result:** The majority of the enrolled patients (61.2%) were young with the age ranging between 18 to 40 years. Among those recruited in the study, 82.4 % of the patients were operated on planned date and 59.6% received loco-regional anaesthesia. The proportion of the overall satisfaction was high (98%), Information provided (94.4%) and staff-patient relationships (98.8%) are major determinant factors of patient satisfaction with a strong association; (p=0.001). Socio-demographic status did not affect significantly the overall

satisfaction; nonetheless, the marital status was associated with some degree of fear and concern (p=0.022). In regards to the care received on discomfort and needs (postoperative pain, vomiting, cold, hunger, thirst etc.) 83.6% of patients were highly satisfied.

**Conclusion:** The study shows that patients are highly satisfied with the perioperative anaesthetic care received at MOI. The positive approach used by the anaesthesia team made them feel well and more assertive to the received care.

Anaesthesia daily morning report and elective patient case discussion made all the team well informed about the daily challenging cases and being well prepared for good management.

**Recommendations:** Support anaesthesia and operating theatre staff to continue a positive approach for a good standard of care.

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## LIST OF ABBREVIATIONS

**ASA**: American Society of Anaesthesiologists

**ASA PS:** American Society of Anaesthesiologists Physical status

**GA**: General Anaesthesia

**LRA**: Local Regional Anaesthesia

**LPPSq**: Leiden Perioperative care Patient Satisfaction questionnaire

**MAC**: Monitoring Anaesthetic care

**MOI**: Muhimbili Orthopaedic Institute

**MNH**: Muhimbili National Hospital

**MUHAS**: Muhimbili University of Health and Allied Sciences

**OT**: Operating Theatre

**PONV**: Post operation nausea and vomiting

**PSAC**: patient satisfaction with anaesthesia care

**PAVs**: Post Anaesthetic Visit

**SPSS:** Statistical Package for the Social Sciences

**WHO**: Word Health Organization

## DEFINITION OF KEY TERMS

**Anaesthetic care**: is the specialised care given to patients who have undergone anaesthesia management.

**Patient satisfaction:** is the extent to which patients are happy with their healthcare

**Patient experience**: encompasses the range of interactions that patients have with the health care system, including their care from health plans, and doctors, nurses, and staff in hospitals, physician practices, and other health care facilities.

**Person-centred care:** is providing care that takes into account the preferences and aspirations of individual service users and the culture of their community.

**Psychometric approaches:** The psychometric approach is based on the direct measurement of creativity and/or its perceived correlates like knowledge, abilities, attitudes, and personality traits in the individual.

**Quality of care:** is the extent to which health care services provided to individuals and patient populations improve desired health outcomes. It must be safe, effective, timely, efficient, equitable and people-centred.

**Service in Operating Theatre:** is the quality of care delivered in the operating room, about time management (Date and time of operation, waiting time on arrival and the surgery, waiting time on recovery).

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Background

Evaluation of health care quality is one way to promise each patient diagnostic and therapeutic care may allow a good outcome in term of quality of health; hence, a high level of satisfaction. Patient satisfaction is the extent to which patients are happy with their healthcare, both inside and outside of the doctor's office(1).

In 2018, three different reports (from WHO) have emphasised the facts that improvement of quality of care is still indispensable (2). It might show that measuring healthcare outcomes lead to achieving some aim of healthcare such as Improve the patient experience of care, Reduce the clinician and staff burnout etc. (3).

The quality of care is defined as active care which may improve or maintain health and that responds respectfully to individual preferences, values and needs (1). That may include person-centred care as the standard of care.

Person-centred care is allied with health facilities care used and health outcomes. Patient satisfaction is an important component of the quality-of-care assessment. The measurement of patient satisfaction is part of the complex process to measure hospital performance with the purpose to increase health facilities utilisation, making better the health system and allow improving the quality of care offered. According to WHO, access to health facilities without quality can be considered as an empty universal health coverage promise (4).

Patients are now our active partners in the care offered, and their satisfaction is considered an important indicator of the quality of care. The better the quality of the care, the more its outcome is highly acceptable.

However, the effectiveness of measurement strategies depends on many variables as patient expectation (which may be low or high than the standard), local culture, Patient experience and how the strategies are applied. Therefore, the inclusion of patient experience as a pillar of quality is often justified on grounds of its intrinsic value (5).

Although patient satisfaction is a fundamental element in the evaluation of the quality of care, it is an element that could be neglected by some practitioners.
As emphasized by the Lancet Health commission: the lowest-income countries and the poorest people within those countries they generally had the worst outcomes, despite considerable efforts to increase the use of health care (6).
Therefore, appraisal of patient satisfaction allows describing the quality of management from a patient's point of view, identifying problems and providing solutions.

Healthcare management and the standard of care continue to move in patient-centred direction; hence hospitals are mandated to follow this kind of engagement (6). The patient-centred approach has its proper limits such as unrealistic expectations of the outcomes which reduce patient satisfaction (7).
It requires the current delivery of preoperative patient education on clinic visit; however, physicians or clinic staff have a constraint, on time-limited for each patient (8). So, in Anaesthetic care sitting, patient satisfaction is multifactorial dependant and may be influenced by the surgery, the quality of anaesthesia care, the organisation of service, management of service delivered and the relationship between the patient and health personnel. For example, at Muhimbili Orthopaedic Institute, elective surgery cancellation as well as other reasons discussed above may significantly influence patient expectation and their satisfaction. However, most anaesthesia care patient disappointment causes may be avoided. In that case to determine and establish the part of the responsibility of anaesthesia care on the magnitude of the issue (patient satisfaction) still necessary.

### 1.2. Statement of the Problem

Currently, there is no evidence related to anaesthetic care patient satisfaction at MOI; I mean no study has been done for the anaesthesia practice appraisal. So, assessment of the patient's level of satisfaction with the quality of anaesthetic care delivery at MOI will allow establishing the part of anaesthesia responsibility on the magnitude of the issue and associated factors.

Many patients (orthopaedic and neurosurgery cases) required either quick mobilisation /physiotherapy, either continuous pain management or sedation. And anaesthetic care quality plays the most important role. The quality of anaesthetic care delivery differs from one institution to another and can be modified. Thus, establishing a relation between the dissatisfaction of patients after anaesthetic care and the likely associated factors will allow improving any modifiable factors.

Patient satisfaction assessment becomes a strong pillar of continuous quality assessment (24). In 2008 at MNH a study was done and even a high overall satisfaction was found regarding the general aspect of care; some negative factors such as attitudes of the staff appeared to lead to *or* increase patient disappointment (11). The literature has shown that some factors are reasonably modifiable by interventions focused on the attendance process (17). So, identifying those modifiable factors related to satisfaction with anaesthesia remains necessary in the processes of service improvement.

So patient centred-care has to be appraised; for the purpose of getting evident feedbacks from the patient then evaluate who is their level of satisfaction after anaesthetic care. This direct feedback from the patients will be helpful to determine the different factors which may be a potential source of patient disappointment.

The patient satisfaction concept should commonly be tested for its appropriateness to health service. But evidence makes it understood that it is an underdeveloped concept in our sitting area.

### 1.3. Conceptual Framework

As MOI is the highest tertiary centre for orthopaedic and neurologic surgery in Tanzania, a high number of patients are referred to for their required care, means a high demand of the service provided is observed. Therefore, several types of surgery are performed in our hospital where ultimately anaesthetic care is provided.

Patient satisfaction is defined as the individual's rating of important attributes of the process and outcomes of the care experience (25). Patient satisfaction with anaesthetic care focuses on the characteristic of anaesthesia side care but involves the interaction of surgery care, environmental, expectations and patient preferences.

The postoperative period is crucial and depends on perioperative care. Several undesirable events which may arise are to be avoided and require specific attention for a good outcome. The anaesthetic postoperative care is the one that determines patient hospital length, stays and outcome. That means, it is a major determinant factor of patient satisfaction.

So measurement of patient experience care received and the factors associated are considered being an integral part of the quality of care and deserve a perpetual consideration.

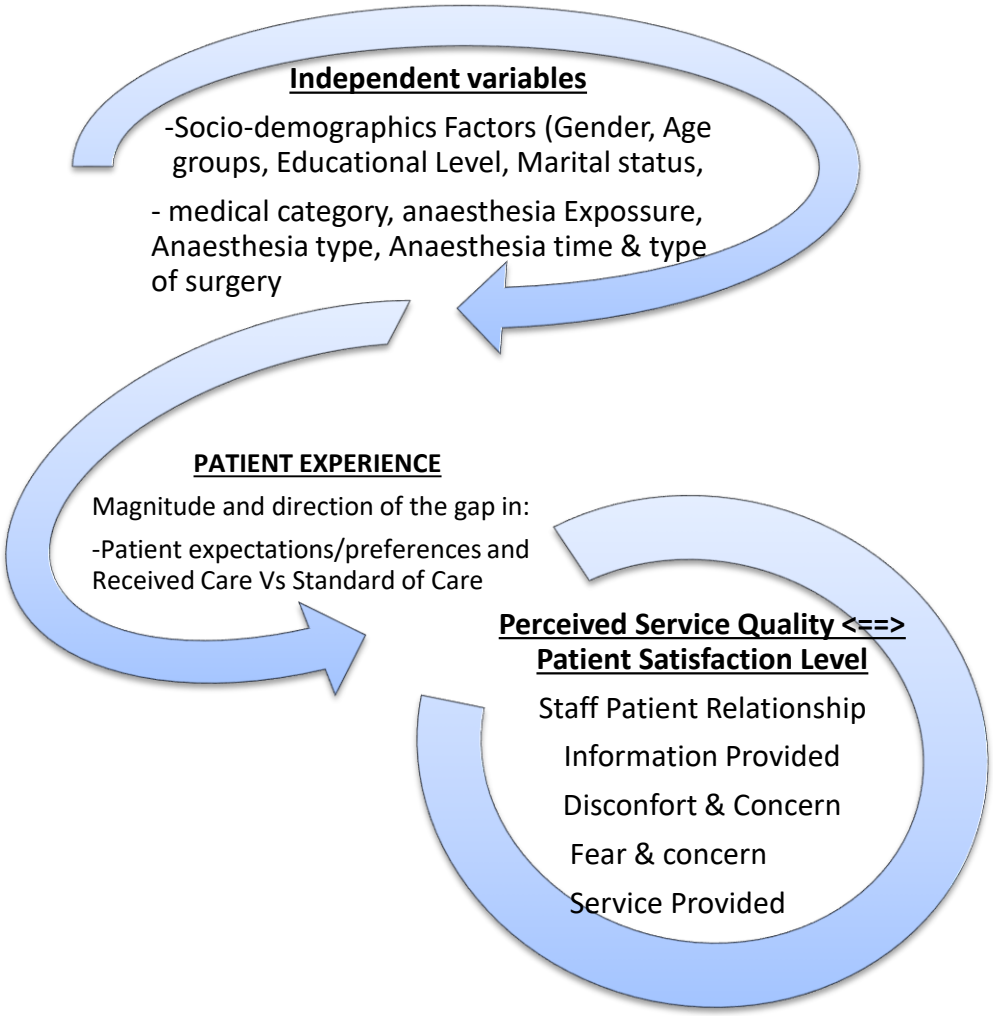



***Figure 1: Conceptual framework for patient satisfaction.***

Patient satisfaction is a prodigious indicator of the quality of care and patient outcome (26). Patient well-being is a factor that improves the effectiveness of healthcare facilities. From this study, more information will be collected about how comfortable patients are with our anaesthesia practice and how happy they are with the received care.
In addition, with the potentials, associated factors which may be found in this study a relationship between quality of care and patient satisfaction can be established. It appears that patient satisfaction not necessarily refers to the quality of care but how comfortable are the patients with the care they receive (26). And the direct feedback we will receive from this study may allow evaluating the strength and the weakness of hospital care. Therefore, establish a plan to improve more hospital care with the purpose hereunder:

- To make a loyal patient who will feel free and happier to use our service again
- To build up the hospital image through a positive experience which patient will share
- To bring patient expectation at the same level of the standard of care.

In other words, we can determine how to raise patient satisfaction level in order to make our job easier.

## 1.4. Research Question

i) What proportion of patients is satisfied with anaesthetic care among those who underwent surgery at MOI?

ii) What are the factors associated with perioperative anaesthesia patient satisfaction at MOI?

## 1.5. Objectives

### 1.5.1. Broad Objective

Evaluate the level of patient satisfaction with perioperative anaesthetic care within 24 hours of surgery and associated factors.

### 1.5.2. Specific Objectives

i) To determine the proportion of patient satisfied with perioperative anaesthesia care among those who underwent surgery at MOI from January 2021 to Mars 2021.

ii) To determine factors associated with perioperative anaesthesia patient satisfaction at MOI from January 2021 to Mars 2021.

# CHAPTER TWO

## 2. LITERATURE REVIEW

Many researchers around the world have tried to explicit how much patient satisfaction after anaesthesia is a significant outcome of hospital care. Therefore, patient satisfaction is highly used to measure the quality of health.

We may define the quality of healthcare as the level to which health facility increase the likelihood of desired health outcome reliable to current professional healthcare knowledge (9).

In 2000, Myles et al. found an overall satisfaction of 96.8% vs. 0.9% of patient somewhat dissatisfied with their anaesthetic care. But most factors related to disappointment could be prevented. Apart from patient and surgical factors, a high relationship was shown in disappointment raised from ‘‘intraoperative awareness’’, ‘‘postoperative pain’’, ‘‘nauseating and vomiting’’ and other ‘‘postoperative complications’’ (9).

According to Torcson in 2005: ‘‘many as one-quarter of 13,000 patients discharged from 51 Massachusetts hospitals reported problems with patient satisfaction issues’’ (10).

At MNH in 2008, overall high patient satisfaction was found on the aspect of service provided. But for those who were not satisfied, the negative attitude of staff toward the patient was highlighted as one of the factors associated (11).

In May 2009, Chanthong et al. emphasised through a systemic review study, the importance of using patient satisfaction as a significant indicator of the outcome of health care and evaluation of the quality of services in anaesthesiology (12).

In 2013, Gan et al. through a survey of post-surgical patients in the U.S. found 86% of patient experienced pain after surgery and 80% experienced adverse effects (13) and once they are not well-managed they may affect patient satisfaction.

In 2014 Mourao et al. had emphases on the perpetual opinion of the Royal College of Anaesthetists (United Kingdom) which states that “Reliable patient feedback will be a

valuable indicator and source of supporting information of certain professional skills for appraisal and revalidation" (14).

Anaesthesia procedures are highly associated with several challenges and risks which may influence patient feeling. However, specific and oriented feedback may allow an effective appraisal to reassure a safe professional practice with quality. Supporting information is used by physicians to demonstrate that practice continues to meet principles and values set out in conducive medical practice. Feedback from patients is known to be one of the six types of supporting information needed to bring medical professional appraisal (15).

As cited by Srivastava and Goel Shave, the following sentence was directed by the emperor Adrian to be engraved on his tomb "A multitude of physicians have destroyed me." (16) That shows how crucial it is to get direct feedback from the patient.

The patient may come up with a pre-set image of the various aspects of the hospital then they might have rated hospital care very low, but they find it above their expectation and they will be satisfied; in contrast, if they have a very high expectation from a hospital, and perception does not meet the expectation, they will gradually result in dissatisfaction (10, 16). There is a need for psychometric approaches to be applied to reduce biased feedback.

Patient satisfaction evaluation based on psychometric testing reveals high levels of PSAC (patient satisfaction with anaesthesia care) (17).

Postoperative anaesthetic visit (PAV) to detect the occurrence of some undesirable side effect from anaesthetic care looks like a forgotten practice even nowadays. And some studies have shown that performing PAVs may improve patient satisfaction (18).

Trinh et al. in 2019 have highlighted patient satisfaction importance over the past decade, and different approaches to data collection were used for the patient satisfaction assessment. Therefore, they submit: ''because healthcare organisations are increasingly emphasising patient satisfaction, it is imperative that anaesthesiologists and surgeons, to be educated on the concept of patient experience within the context of the perioperative environment'' (19).

In 2015 at King Khalid University Hospital in Riyadh, Saudi Arabia, 95.2% of patients were highly satisfied with their anaesthetic care. Few patients were not satisfied, but a strong relationship was show*n* between patient dissatisfactions of their anaesthetic care with some postoperative complications such as poor postoperative pain control and nausea, dizziness,

sleepiness, awareness during anaesthesia, muscles pain and headache. However, those factors that were associated with dissatisfaction could be prevented, or better treated (20).

In Kenya on August 2017, a monitoring anaesthesia care was developed and tested as an electronic; provide a report–driven method in an East African country for monitoring Anaesthesia Care Delivery and Perioperative Mortality (21); that shows how paramount anaesthesia care need to be appraised. Also it was one of ways to overcome the challenges of anaesthetic care evaluation and data collection.

Patient satisfaction has been widely studied around the world. And this concept is often used as an indicator of perceived service quality which is, however, a superior concept.

In addition, based on the existing evidence, patient satisfaction is an unpredictable concept, and it is currently known, according to a systematic review of 43 articles, published in 2017 based on the previous 20 years that a high rate of patient satisfaction is often reported. And the dissatisfaction reported more are secondary to modifiable factors (17, 22).

In low and middle outcome resource countries, challenges are more to maintain the high service quality of care. And contemporarily, there is an increasing interest in patient satisfaction which is often considered as a valid indicator of the quality of care. That was one of the aims of the study done and published in Kenya (21) above cited.

Recently in January 2020, Johanna Glaser et al. (23) have shown in Systematic Review that 'Current practices often result in inadequate patient comprehension'. That may lead to wrong expectation from the patient.

Andemeskel et al. (24) through a cross-sectional study done in Eritrea in 2019; an overall result of 68.8% of the patients was satisfied; while the lowest patient satisfaction score was for the dimension about information provision 45%.

Once again, these emphasise how important is it to consider the emotional component of the patient to measure PSAC as Darlene Falco et al. showed in 2017, through evidence review (17).

Several approaches have been tried to get accurate data for patient satisfaction after anaesthetic care. However, in Tanzania, there is no evidence about patient satisfaction with anaesthesia care.

# CHAPTER THREE

## 3. METHOD

### 3.1. Type of Study

This is a descriptive qualitative study.

### 3.2. Study Area

This study was conducted at the Muhimbili Orthopaedic Institute (MOI) in Dar Es Salaam, Tanzania. MOI is a tertiary teaching centre and the referral Orthopaedic and Neurosurgery centre in the country. Currently, the institute has 09 Operating Theatres, in which Orthopaedic surgery and Neurosurgery being are done.

### 3.3. Study duration

The study was conducted over a three month period, beginning from January 2021 to March 2021.

### 3.4. Study population

The study population include Patients elective procedures that underwent surgery under General Anaesthesia (G.A), Loco-regional anaesthesia (L.R.A) or Monitored anaesthesia care (MAC).

### 3.5. Inclusion Criteria

- Elective case
- Age from 18 years old and more
- Fully awake postoperatively
- ASA state I, II and III
- consent to participate in the study

### 3.6. Exclusion Criteria

Patient admitted with the following criteria will be excluded from the study.

- Patient admitted in ICU postoperatively,
- patients unable to communicate (as Ventilated Patient on postoperative)

### 3.7. Sampling Method:

All patients who had received anaesthetic care, during the study period, were screened to

check if they met inclusion criteria or not. A convenient sampling technique was used to enrol those available patients who fulfilled inclusion criteria and agreed to take part in the study. All patients who fit the study were identified on recovery then followed to the ward for consent sign. Patients consent to participate were interviewed. Therefore patients with missing information were eliminated to the study and those who fulfilled all information were enrolled and analysed on SPSS therefore, after signing the consent form they were interviewed face to face.

### 3.8. Sample Size

Using estimated overall satisfaction prevalence of 92.1% from the Leiden University Medical Centre, where the questionnaire was developed and validated (27). And the single population proportion formula at 95% confidence level and margin error 5%.

$$\mathrm{N} = \frac{Z^2 p(100 - p)}{\varepsilon^2}$$

Where N= sample size

Z = 1.96

P = 92.1

$\varepsilon = 5\ \%$

$$\mathrm{N} = \frac{1.96^2 * 92.1(100-92.1)}{5^2} = 111.80$$

Therefore, the projected sample size was 112 patients and ultimately 250 were enrolled and analysed. This is to prevent the non-response participants as well as increase accuracy and avoid errors of the estimated parameter.

### 3.9. Data Collection

Data were collected within the 24 hours post-surgery period through a face-to-face interview which was done, using a multidimensional psychometric questionnaire called the Leiden Perioperative care Patient Satisfaction questionnaire (LPPSq) (27,28). LPPSq is a valid, Reliable questionnaire developed in 2008, to measure patient satisfaction with perioperative anaesthesia care. The data collection tool is a little bit modified to include the section for the demographic parameters into the pre-set major determinant of this questionnaire.

The collected data were designated into independent and dependant variables of the LPPSq.

### 3.9.1. Independent variable

Several variables are considered; Socio-demographic variables (as Age, Sex, Educational Level, marital status) medical category, previous anaesthesia exposure, type of Anaesthesia, anaesthesia time and type of surgery.

### 3.9.2. Dependent variable

Patient satisfaction Level is the basic outcome of this study and responses are rated from 1 to 5 thereafter categorised in 3 different levels of satisfaction regarding the overall score.

-Completely dissatisfied (1), Dissatisfied (2), Not satisfied/Nor dissatisfied (3), Satisfied (4), Completely satisfied (5)

- Not at all (1), a little bit (2), Moderately (3), Quite a bit (4), extremely (5)

Least satisfaction, Moderate satisfaction and High satisfaction

This satisfaction Level is studded for 4 variables items on LPPSq and they are as follow.

Information Provision: involves 4 items,

Discomfort and needs: 8 items,

Fear and concern: 7 items

Staff patient relationship: 14 items

## 3.10. Scoring Process

To measure the direct attitude about patient satisfaction, the Likert scale will be used. The one, five-point scale is used to express the degree of patient satisfaction for each aspect studied. Then the interpretation of patient satisfaction for each subscale as well as the overall satisfaction, benchmarks will be used to categorise 3 different clusters as; Least satisfaction, Moderate satisfaction and High satisfaction according to the marks for each aspect.

### 3.10.1. Aspect regarding information

The statement is 1, completely dissatisfied to 5, completely satisfied. It contains four items; with possible marks: minimum of 4 and maximum of 20.

| Level of satisfaction | Score marks |
|---|---|
| Least | 4-9 |
| Moderate | 10 - 14 |
| High | 15-20 |

### 3.10.2. Aspect regarding discomfort and needs

The patient will be interviewed on Eight items which are stated as 1 = not at all to 5 = extremely discomfort. Therefore, satisfaction is correlated to the discomfort level. The possible: minimal mark is 8 and the maximum mark is 40.

| Level of Discomfort | Score marks | Level of satisfaction |
|---|---|---|
| Least | 8-18 | High |
| Moderate | 19-29 | Moderate |
| High | 30-40 | Least |

### 3.10.3. Aspect regarding fear and concern

Seven items are scored from 1= not at all to 5= extremely fear. So, the possible minimum score is 7 and the maximum possible score is 35.

| Level of Fear | Score marks | Level of satisfaction |
|---|---|---|
| Least | 7 - 16 | High |
| Moderate | 17 - 25 | Moderate |
| High | 26 - 35 | Least |

### 3.10.4. Aspect regarding the staff-patient relationship

In this area four statements are scored from 1 to 5 as completely dissatisfied to completely satisfied; and possible score are: 14 the minimum possible and 70 the maximum.

| Level of satisfaction | Score marks |
|---|---|
| Least | 14 - 32 |
| Moderate | 33 - 51 |
| High | 52 - 70 |

### 3.10.5. Aspect regarding service in the OT

This dimension appreciates service in the operating room before and after surgery as it is known *to* be associated factors of patient satisfaction.

It concerns the operating time (if surgery was done on convenience time or not) the right answer is rated 1.

At the end, the waiting time between arrival-operation and waiting time on recovery and leaving the OT centre, is stated as too long to too short (rated from 1 to 4). And the count marks will be used to classify service in OT satisfaction (least: 2-4; Moderate: 5-7; High: 8-9).

### 3.10.6. Overall Satisfaction

The satisfaction of those four principals' items which are classified in 3 categories; will be marked as 1 = Least satisfaction, 2 = Moderate satisfaction and 3 = High satisfaction. The overall possible score is 4 the minimal and 12 the maximum.

| Level of satisfaction | Score marks |
|---|---|
| Least | 4 - 6 |
| Moderate | 7 - 9 |
| High | 10 - 12 |

## 3.11. Data analysis

Descriptive statistic was used for data analysis. Categorical variables were summarized using proportion and percentage. So, the patient satisfaction is represented by the satisfaction scores in each dimension which are categorized, while the overall satisfaction is computed from those 4 dimensions which are also scored and categorized.

The occurrence and severity of adverse anaesthesia outcomes (postoperative pain, sore throat, back pain, vomiting, cold, hunger, thirst and Headache) were marked and their association was appreciated.

Chi-squared test was used to determine the correlation between different variables such as patient discomfort (Postoperative pain, Vomiting, Headache, back pain etc.), Fear and concern, Staff–patient Relationship as well as patient characteristics (age, previous anaesthesia exposure etc.) and clinical features (type of surgery, earlier operated, and type of anaesthesia, Service in OT). A P value of 0.05 will be significant statistically.

## 3.12. Ethical Consideration

The explanations were given to each patient involved in the study by the investigator after introducing himself. Those explanations were about the study objectives, anonyms, how the study will help to improve health care in the future and the consent form, before asking the patient to take part in the study. Therefore, only those who accepted to participate and signed the consent were enrolled for the study.

An interview was conducted with the patient and the next of kin people were allowed to assist in the interview. The patients' information and results of any test performed will be handled confidentially.

### 3.13. Ethical Clearance

The proposal was presented to the Department of Anaesthesiology of MUHAS to get the validity. Then Ethical clearance was thereafter obtained from the Research and Publication Committee of the Muhimbili University of Health and Allied Sciences.

### 3.14. Study limitations and mitigation

For some patients filling the questionnaire form may be difficult and lead to errors. In that case, the investigator and a trained assistant filled the questionnaire through the face-to-face interview.

More explanation was given to participants to make them understand that the investigator was not part of treatment team; their anonymity will always be considered. That way, bias responses were avoided. Also more explanation about the study and its importance was required.

### 3.15. Publication and Dissemination of the study results

The result obtained from this study will be presented to the Library, University Research Seminars, shared with MOI and published in national and international journal.

# CHAPTER FOUR

## 4. PRESENTATION AND ANALYSIS OF RESULTS

Among 275 retained, 8 cases didn't consent to participate. For those who signed the consent, 17 were excluded due to data not adequately completed and finally, only 250 patients were analysed on SPSS.

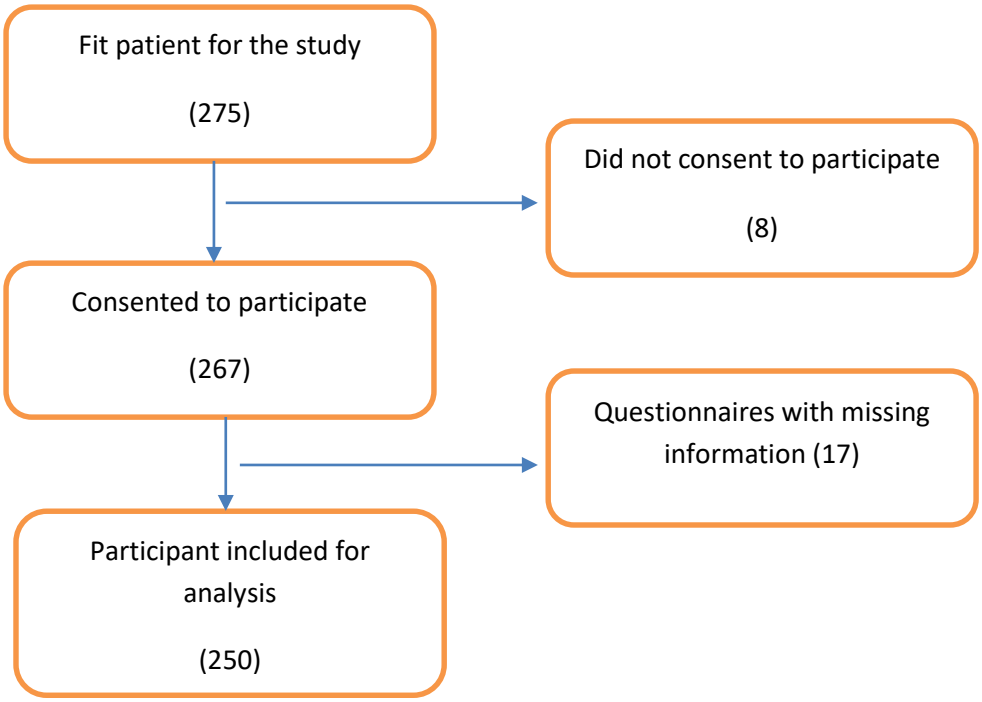



***Figure 2: Flow diagram showing patient enrolment***

### 4.1. Patients' characteristic and Socio-demographic status

The majority of the participants, (61.2%) were aged between 18 to 40 years and gender wise, the majority were male (74.4%). Whilst, 74.8 % of the patients were private sponsored, with majority of patients having more than one previous exposure to anaesthesia. 72.8% of the patients were not assessed in pre anaesthetic clinic; however, all patients were reviewed the day before surgery in their respective wards by the anaesthesia team.

***Table 1: Patient's distribution according to socio-demographic, clinical characteristic and care provided***

| Variable | Categories | Frequency | Percentage (%) |
|---|---|---|---|
| Age group | > 65 years | 14 | 5.6 |
| | 18-40 years | 153 | 61.2 |
| | 41-65 years | 83 | 33.2 |
| Sex | Male | 186 | 74.4 |
| | Female | 66 | 25.6 |
| Education level | primary school/not | 110 | 44.0 |
| | secondary school/high | 97 | 38.8 |
| | university | 43 | 17.2 |
| Marital status | single | 81 | 32.4 |
| | married | 142 | 56.8 |
| | widowed | 16 | 6.4 |
| | divorced | 11 | 4.4 |
| Medical category | public | 63 | 25.2 |
| | private | 187 | 74.8 |
| Type of anaesthesia | G. A | 101 | 40.4 |
| | L.R. A | 149 | 59.6 |
| | MAC | 0 | 0 |
| Previous Anaesthesia Exposure | 0 | 79 | 31.6 |
| | 1-2 | 144 | 57.6 |
| | >/= 3 | 27 | 10.8 |
| Anaesthesia time | </= 120 minute | 105 | 42.0 |
| | > 120 minutes | 145 | 58.0 |
| Type of surgery | Neurosurgery | 11 | 4.4 |
| | Orthopaedic | 239 | 95.6 |
| Category of surgery | Minor | 53 | 21.2 |
| | Intermediate | 149 | 59.6 |
| | Major | 48 | 19.2 |
| Clinical Pre-visit | No | 182 | 72.8 |
| | Yes | 68 | 27.2 |
| ASA State | I | 137 | 54.8 |
| | II | 109 | 43.6 |
| | III | 4 | 1.6 |
| Operated on an agreed date | No | 44 | 17.6 |
| | Yes | 206 | 82.4 |

### 4.2. Overall and subscale percentage of satisfaction

In this study 98 % of the patients were highly satisfied with anaesthesia care received. Among the subscales used to score satisfaction in this study, 83.6% had a very high satisfaction rate in the degree of discomfort and needs, with similar proportion in the degree of fear and concern. In the Information subscale, 94.4% of patients had higher degree of satisfaction, while the remaining subscale of staff patient relationship showed high satisfaction of 98.8%.

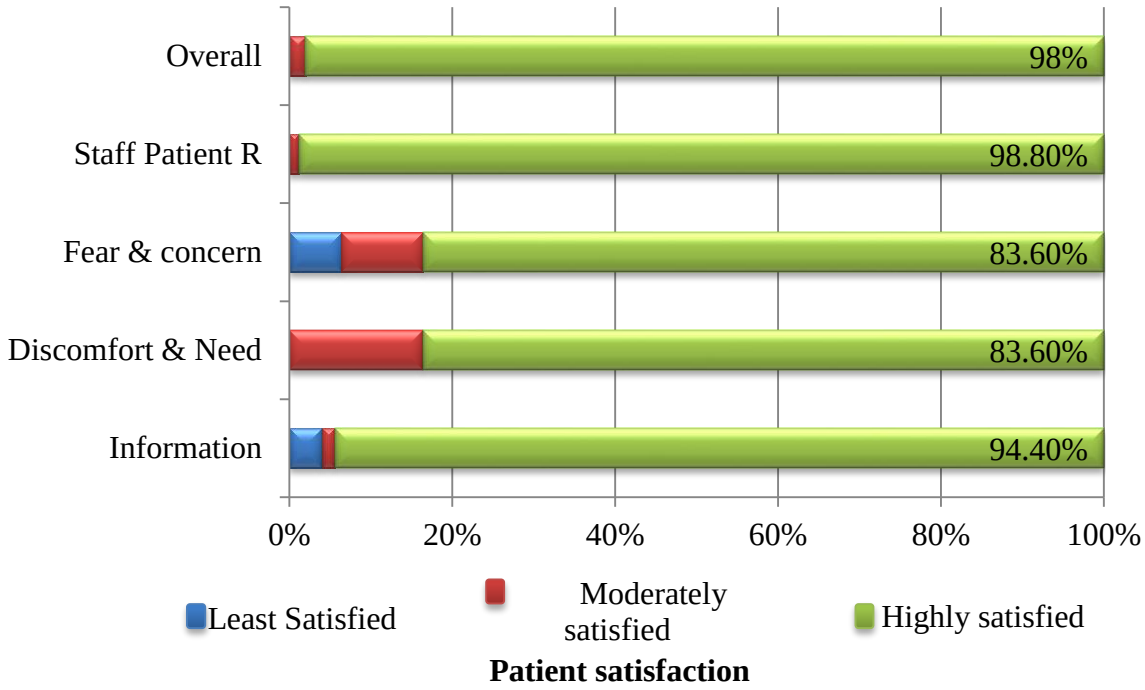



***Figure 3: Overall and subscale percentage of high satisfaction***

### 4.3. Factors associated with overall patient satisfaction

***Table 2: Association between Clinical factors and Overall Patient satisfaction***

| Variable | Categories | Overall satisfaction | | P-Value |
|---|---|---|---|---|
| | | Moderate Satisfaction (%) | High Satisfaction (%) | |
| **Sex** | F | 1 (1.6) | 63 (98.4) | 1 |
| | M | 4 (2.2) | 182 (97.8) | |
| **Age group** | > 65 years | 1 (7.1%) | 13(92.9%) | 0.20 |
| | 18-40 years | 2(1.3%) | 151(98.7%) | |
| | 41-65 years | 2(2.4%) | 81(97.6%) | |
| **Clinic Pre-visit** | No | 3 (1.6%) | 179 (98.4%) | 0.61 |
| | Yes | 2 (2.9%) | 66 (97.1 %) | |
| **Previous Anaesthesia exposure** | >/=3 | 0(0%) | 27(100%) | 0.39 |
| | 0 | 3(3.8%) | 76(96.2%) | |
| | 1-2 | 2(1.4%) | 142 (98.6%) | |
| **Class of surgery** | Major | 2(4.2%) | 46(95.8%) | 0.38 |
| | Intermediate | 2(1.3%) | 147(98.7%) | |
| | Minor | 1(1.9%) | 52(98.1 %) | |
| **Medical Categories** | Private | 5(2.7%) | 182 (97.3%) | 0.33 |
| | Public | 0 (0%) | 63 (100%) | |
| **ASA Status** | I | 1 (0.7%) | 136 (99.3%) | 0.02 |
| | II | 3 (2.8%) | 106 (97.2%) | |
| | III | 1(25%) | 3 (75%) | |
| **Type of Anaesthesia** | G. A | 2 (2%) | 99 (98.0%) | 1 |
| | L.R. A | 3 (2%) | 146 (98.0%) | |

#### 4.3.1. Overall patient satisfaction and Sex

When compared according to sex, women had higher satisfaction than men; (women 98.4% vs. men 97.8%), however, this was not statistically significant.

### 4.3.2. Overall patient satisfaction and Age

In the group aged 18 – 40 years, 98.7 % were highly satisfied, in group aged 41 – 65 years 97.6% felt highly well and for those above 65 years, 92.9 % were well satisfied. The older the patient, the higher the level of satisfaction decrease, however with P=0.2; this occurs only by chance.

### 4.3.3. Overall patient satisfaction and Clinic Pre-visit

With 68 patients seen on clinic pre-visit, majority of them (97.1%) got high satisfaction while 98% of those not be seen on clinic are also highly satisfied. With P value of 0.61, it means, there is no association between overall satisfaction and be seen in clinic.

### 4.3.4. Overall patient satisfaction and previous Anaesthesia exposure

All patients who are previously exposed to anaesthetic care 3 times or more are highly satisfied 27 (100%), 142 (98.6%) of those had previously exposed once or twice, got high satisfaction as well as 76 (96.2%) of those were not previously exposed. Apparently previous exposure affects somehow the satisfaction; but with P = 0.39 statistically there is no significant association of patient satisfaction with previous anaesthesia exposure.

### 4.3.5. Overall patient satisfaction and Type of Anaesthesia

Satisfaction of 99 patients that equal to 98% of those who received general anaesthesia felt highly satisfied, while 146 (97.98%) of those benefit loco-regional anaesthesia is highly satisfied: in the two groups the satisfaction still high with a P= 0.67.

### 4.3.6. Overall patient satisfaction and Class of surgery

Regarding to class of surgery which are done 52 (98.11%) patients with minor surgery are highly satisfied, 147 (98.65%) patients with Intermediate surgery as well as 46 (95.83%) patients with major surgery. Most of patient in these 3 groups are highly satisfied and the type of surgery didn’t affect (P=0.47) the feeling to anaesthesia care they had received.

### 4.3.7. Care provided associated with overall Patient satisfaction

***Table 3: Association between care provided and overall satisfaction***

| Variable | Categories | Overall patient satisfaction | | P-value |
|---|---|---|---|---|
| | | Moderate satisfaction (%) | High satisfaction (%) | |
| **Information** | High | 2 (0.8) | 234 (99.2) | 0.001 |
| | Least | 3 (30) | 7 (70) | |
| | Moderate | 0 (0) | 4 (100) | |
| **Discomfort and need** | High | 1 (0.5) | 208 (95.5) | 0.003 |
| | Moderate | 4 (9.8) | 37 (90.2) | |
| **Fear and Concern** | High | 1 (0.5) | 208 (95.5) | 0.001 |
| | Least | 3 (18.8) | 13 (81.2) | |
| | Moderate | 1 (4) | 24 (96) | |
| **Staff–patient Relationship** | High | 3 (1.2) | 244 (98.8) | 0.001 |
| | Moderate | 2 (66.7) | 1 (33.3) | |

**Overall satisfaction and information provided**

Patients were differently satisfied about information they had received. *There are* those who got least satisfaction from received information 7 (70%) felt, overall, well satisfied; those who got moderate satisfaction from received information 4 (100%) and 234 (99.15%) of those highly satisfied of received information got high overall satisfaction. Therefore, the least satisfaction about received information affects strongly the overall satisfaction (p= 0.001).

**Overall satisfaction and Discomfort & need**

Patients who got moderate satisfaction concerning how their discomfort and need were cared, 90.24 % had got high overall satisfaction; compare to those got high satisfaction regarding discomfort and need, 99.52% felt well and were highly satisfied (P=0.003). A strong association between discomfort and need with the overall satisfaction is evidently established here. It means that paying a specific attention about postoperative pain, sore throat; back pain, vomiting, cold as well as hunger leads to good satisfaction.

**Overall satisfaction and Fear and Concern**

Patient with a low satisfaction regarding fear and concern only 81.2 % got high overall satisfaction while those with moderate fear and concern, 96% got highly satisfied and 95.5 % of those who were ensured about their fear got high satisfaction (p=0.001). There is a strong association between how patients are managed to get away with their fear and their satisfaction.

**Overall satisfaction and Staff–patient Relationship**

Patient highly satisfied to their relationship with staff, 99.8 % got also a high overall satisfaction, while only 33.3 % of those moderately satisfied to their relationship with staff got high overall satisfaction. With p = 0.001 there is enough evidence for a strong association of overall patient satisfaction and how they considered by the staff.

**Overall satisfaction and satisfaction with Service in the OT**

The service offered in Operation theatre was evaluated itself then its association with overall patient satisfaction.

Patient felt low quality of service, 85.7 % got high overall satisfaction; within those find moderate quality of service in operation theatre 98.5 % were highly satisfied and 98.2 % of those who found good quality of service were highly satisfied. It looks like the more the patient finds a good quality of service, high*er* the overall satisfaction of perioperative anaesthetic care; however, this is not so (p=0.18).

# CHAPTER FIVE

## 5. DISCUSSION

In this study, the purpose was to appraise the level of satisfaction of patient on the perioperative anaesthesia care they had received at MOI and then determine the possible factors which may affect patient's consideration to anaesthesia care experience.

More than half of the participants were young; also, the study showed that the majority of the participants were dominated by male sex, and more cases were orthopaedics. This is probably because an orthopaedic centre was the site of study; even though neurosurgery cases are also enrolled.

Even though, most of the patients were not seen in anaesthesia clinic before, this wasn't an issue because all of them were reviewed by the anaesthesia team a day before surgery in the ward; to discuss with them anaesthesia care they were supposed to find, to clear their ability to be brought in theatre and order all requirements.

The study result shows that many patients treated at MOI felt well and got a higher overall satisfaction with the received care. Some similar higher satisfactions were observed; Alshehri, A. A. et al. Reported an overall patient satisfaction of 95.5 % in Saudi Arabia (20) and Caljouw et al. reported 92 % of patient satisfaction at Leiden University when the LPPSq was developed (27). In Africa, a study done at 2 national referrals hospitals in Eritrea reported 68.8 % of overall satisfaction (24).

As tertiary and teaching hospital with a high-level expert anaesthesiologist, MOI; a day before surgery, patients are mandatorily reviewed by a member of the anaesthesia team and patients are involved as possible in decision making regarding their perioperative anaesthetic care (until they leave the operating centre). This attitude vis-à-vis of patients let them avoid wrong expectations and allow differentiating the role of the anaesthesia team.

Patient characteristics, like gender, age, etc. and clinical features such as type of anaesthesia, category class of surgery and ASA physical status were compared with the overall satisfaction; ASA physical status was associated with patient satisfaction in our stud, $p= 0.02$ (more ASA PS is high, less was the satisfaction).

Angelica Forsberg reports a significant association between high ASA classifications with self-estimated anxiety prior to surgery (29) which probably affect satisfaction.

Andemeskel, Y. M. et al (24) report a large association between satisfaction and demographic patient's characteristics (gender: p =0.001, Age: p=0.023, Type of anaesthesia: p=0.011, type of surgery: p<0.001, admission type: p=0.001, etc.); in contrast, our study found some differences which statistically are not significant. I mean there is no association between overall patient satisfactions with those parameters (class of surgery: p=0.38, previous anaesthesia: p= 0.39, Age: p= 0.20, sex: p= 1 etc.) and this occurred by chance. In our study only elective cases were enrolled, therefore enough pre-operative preparation and optimization were possible to make them relieve anxiety.

The study found high satisfaction with the provided information; which probably correlates with the manner patients are approached at the site of study. Anandalakshmi et al. report 88.3 % of high satisfaction from provided information, at Indira Gandhi General Hospital in 2018(28). And they emphasize the importance to keep effective communication with the patient as well as implicate them in decision making.

Our study shows a strong association between overall satisfaction and information in the site of study. It means most of the patients were well-informed and implicated in decisions making more they were highly satisfied. This correlates well with what was reported by Thomas Heidegger et al. in 2005: 'patient satisfaction is primarily determined by information and communication' (30).

We found that be seen in clinical pre-visit was not associated with the overall satisfaction. So, it doesn't affect significantly patient satisfaction regarding the overall satisfaction which may probably be due to the fact that those entire patients were seen in the ward the day before surgery for anaesthetic pre-visit.

Discomfort & need and fear & concern are the domains where the lowest high satisfactions are gotten; even though we got a high satisfaction compared to the study reported by Anandalakshmi et al. in India(1.55% high satisfaction).

The degree of discomfort and need is associated with the overall satisfaction (p= 0.003); it means anaesthetic care delivered on the arrival at OT until 24 hours after surgery, are enough desired, because the better the quality of care is, the more the satisfaction; fortunately, none of the participants got the least satisfaction. Alshehri, A. A. et al. in Saudi Arabia report a strong association with dissatisfaction with poor pain control and nausea and vomiting (p<0.0005). So, with a good overall satisfaction regarding the degree of discomfort and need

we found, these factors (Postoperative pain, back pain, Vomiting, Cold, Hunger, Thirst and Headache) were not an issue.

Regarding the degree of fear and concern, we report the lowest satisfaction (83.6%) compare to others studies; 87.5 % was reported in Eritrea by Andemeskel, Y. M. et al. and 93.3% by Caljouw et al. at Leiden University medical centre in Netherlands.

In our study, the analysis shows that the degree of fear and concern also, affected by some demographic and clinical parameters which are no-modifiable. Those parameters are known to affect the emotional status of people.

We noted a low degree of fear for married (85.2%) and single (79%) patient than divorced (72.2) and widowed (0%) patients. In 2016 the Mental Health Foundation, in London (31) reported that 'high marital quality is associated with lower stress and less depression'.

ASA physical status is specifically found to be highly associated ($p=0.004$) with the degree of fear and concern; it means comorbidities lead to low satisfaction.

A positive approach of staff to patients is found in our study (98.2%) and this relationship is strongly associated with overall satisfaction. Caljouw et al. (27) report also a high satisfaction regarding the staff-patient relationship (93.4%).

In operating theatre, a staff member interacts with the patient just a few moments prior surgery, however, those few moments are crucial to make the patient feel comfortable. This correlates with the association found between service in Operating theatre quality and staff-patient relationship satisfaction ($p=0.042$).

In 2008, Muhondwa et al. reported that patients were dissatisfied specifically with negative attitudes of staff towards patients; at MNH (11).

Few cases of surgery were not done on the planned date (17.6), and this aspect combined with how patient find the waiting time on theatre was used to appreciate the quality of service on Operating theatre. Less than half got high satisfaction versus a little bit more than half got moderately satisfied.

# CHAPTER SIX

## 6. CONCLUSION AND SUGGESTION

### 6.1. Conclusion

From this study, overall patient satisfaction with perioperative anaesthesia care at MOI was found high (98%). Staff-patient relationships as well as Information provided to a patient are major determinant factors of the quality of patient satisfaction. The positive approach to review patient the day before surgery is appreciated by patients and allows them to distinguish the responsibility of the anaesthesia and surgery team. At the same time, this approach establishes confidence and reduces patient's anxiety. However, socio-demographics factors didn't affect significantly the overall patient satisfaction.

The study concludes that whatever patient characteristic (socio-demographic and clinic) and others conditions (such as surgery), enough adequate anaesthetic care are given to make them feel well satisfied.

Anaesthesia morning routine report and elective patient case discussion make the whole team be well-informed about the daily challenges cases and well prepared for a good management. That habitude avoids anaesthesia malpractice and enhances the quality of care.

### 6.2. Recommendations

From our study, we suggest to:

- Support anaesthesia and operating theatre staff to continue a positive approach for a good standard of care.

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## Appendices

The Leiden Perioperative care Patient Satisfaction questionnaire (LPPSq) (27)

This form will be filled by the investigator within the 24 hours post-surgery.

Today's date:

| | | | | | |
|---|---|---|---|---|---|
| Serial number: | | | | | |
| Age: 18-40 yrs ☐ 41-65 yrs ☐ > 65yrs ☐ | | | | Sex M ☐ F ☐ | |
| Educational Level : Primary School ☐ High School ☐ University ☐ | | | | | |
| Marital status: Single ☐ Married ☐ Widowed☐ Divorced ☐ | | | | | |
| Medical category: Public ☐ Private ☐ | | | | | |
| Clinic Pre-visit | Yes ☐ | No ☐<br>Why: | | | |
| Post OP visit? | Yes ☐ | No ☐ | | | |
| Previous Anaesthesia exposure | 0 ☐ 1-2 ☐ 3 ☐ | | | | |
| Type of Anaesthesia | G.A ☐ | L.R.A ☐ | MAC ☐ | | |
| ASA Physical State | | | | | |
| Anaesthesia time | </= 120 mn ☐ > 120 mn ☐ | | | | |
| Type of surgery | Neurosurgery ☐ | Orthopaedic surgery ☐ | | | |
| | Major ☐ | Middle ☐ | Minor ☐ | | |

**Patient Experience during anaesthesia care**

**Information**

| To what degree were you satisfied about . . . | Completely dissatisfied | Dissatisfied | Not satisfied, nor dissatisfied | Satisfied | Completely satisfied |
|---|---|---|---|---|---|
| 1. The explanation about the operation? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. The amount of information about the operation? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. The explanation about your stay at the operating theatre centre? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. The amount of information about your stay at the operating theatre centre? | ☐ | ☐ | ☐ | ☐ | ☐ |

**Discomfort and needs**

| To what degree did you after the operation have | Not at all | A little bit | Moderately | Quite a bit | Extremely |
|---|---|---|---|---|---|
| 1. Postoperative pain? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. A sore throat? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Back pain? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Vomiting? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Cold? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Hunger? | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | |
|---|---|---|---|---|---|
| 7. Thirst? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Headache? | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Fear and concern** | | | | | |
| To what degree were you afraid of . . . | Not at all | A little bit | Moderately | Quite a bit | Extremely |
| 1. Not awaking after the operation? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Awaking during the operation? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Seeing the operating room? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Pain due to the surgeon? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Mistakes by the surgeon? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Pain due to the anaesthetist? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Mistakes by the anaesthetist? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 1. Was the staff attentive to your needs? | ☐ Yes | | ☐ No | | |
| 2. Did they act according to your needs? | ☐ Yes | | ☐ No | | |
| 3. Did they consult another health professional? | ☐ Yes | | ☐ No | | |
| 1. Did you experience professional competence? | ☐ Yes | | ☐ No | | |
| **Staff–patient Relationship** | | | | | |
| To what degree. . . | Completely dissatisfied | Dissatisfied | Not satisfied, nor dissatisfied | Satisfied | Completely satisfied |
| 1. Did the staff of the operating theatre centre take into account your privacy? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Did you have confidence in the staff of the operating theatre centre? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Had the staff of the operating theatre centre an open attitude? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Were staff of the operating theatre centre respectful? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Did staff of the operating theatre centre show understanding for your situation? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Were staff of the operating theatre centre polite? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Did you find the staff of the operating theatre centre professional? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Did staff of the operating theatre centre pay attention to your questions? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. Did staff of the operating theatre centre pay attention to complaints like pain and nausea? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. Did staff of the operating theatre centre take into account your personnel preferences? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. Did staff of the operating theatre centre take into account your cultural background? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. Did you find the staff of the operating theatre centre knowledgeable? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 13. Did staff of the operating theatre centre pay attention to you as an individual? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. Were you treated kindly by the staff of the operating theatre centre? | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Service in the OT** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. Were you operated on the agreed date and time? | ☐ Yes | ☐ No | | | |
| | Too long | Long Just | right | Too short | |
| 2. How did you experience the waiting time between your arrival at the operating theatre centre and the operation? | ☐ | ☐ | ☐ | ☐ | |
| 3. How did you experience the waiting time between your time spent in the recovery room and your leaving of the operating theatre centre? | ☐ | ☐ | ☐ | ☐ | |

**Swahili Version: Form ya dodoso la mahojiano ya ana kwa ana.**

Mahojiano ya Laiden kuhusu kuridhika kwa mgonjwa kuhusu huduma alizopewa kabla na bada ya upasuaji . Fomu hii itajazwa na mtafiti ndani ya masaa 24 baada ya upasuaji.

Tarehe:

| | | |
|---|---|---|
| Nambari ya ushiriki : | | |
| Umri : miaka 18-40 ☐ Miaka 41-65 ☐ miaka > 65 ☐ | | jinsia Me ☐ Mke ☐ |
| Kiwango cha elimu: Elimu ya msingi☐ Sekondari☐ Chuo Kikuu ☐ | | |
| Hali ya ndoa: Sijaoa/Sijaolewa☐ Nimeoa/nmeolewa☐ Mjane/Mgane☐ Achana☐ | | |
| Utaratibu wa kulipia matibabu : Umma ☐ Binafsi ☐ | | |
| Ulienda Kliniki ya Anesthesia kabla ya upasuaji | Ndio ☐ | Hapana ☐ kwanini : |
| Je! ulitembelewa na daktari au muuguzi wa usigizi na ganzi baada ya upasuwaji? | Ndio ☐ | Hapana ☐ |
| Idadi ya huduma za Anesthesia ulizopata | 0 ☐ 1-2 ☐ 3 ☐ | |
| Aina ya Anesthesia | Usingizi wa jumla ☐ | Ganzi ya eneo ☐ / Ufuatiliaji wa huduma ya Anesthesia ☐ |
| Hali ya afya kwa viwango vya ASA | | |
| Muda wa dawa za usingizi | </= 120 mn ☐ > 120 mn ☐ | |
| Aina ya upasuaji | Upasuaji wa ubongo na neva ☐ / Upasuaji wa Mifupa ☐ | |
| | Kubwa ☐ Kati ☐ Mdogo ☐ | |

**Uzoefu wa mgonjwa wakati wa kupewa huduma za dawa za usingiz na ganzi (anesthesia)**

**taarifa**

| kwa kiwango gani Uliridhika na : | Sikuridhika kabisa | Sikuridhika | Sikuridhika wala kuridhika | Niliridhika kiasi | Niliridhika Kabisa |
|---|---|---|---|---|---|
| 1. Maelezo kuhusu upasuaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Kiwango cha taarifa kuhusu upasuaji utakavyokuwa? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Maelezo juu ya kukaa kwako kwenye chumba cha upasuaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Kiwango cha taarifa kuhusu kukaa kwako ndani ya chumba cha upasuaji ? | ☐ | ☐ | ☐ | ☐ | ☐ |

**Usumbufu na mahitaji**

| Ni kwa kiwango gani ulijihisi baada ya kufanywa upasuaji kuhusu yafuatayo: | Sikuhisi chochote | Kwa kiwango Kidogo | Kwa wastani | Kimya kidogo | Kwa kiwango kikubwa Sana |
|---|---|---|---|---|---|
| 1. Ma maumivu ya baada ya upasuaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Maumivu ya Koo? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. maumivu ya mgongo ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. kutapika? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Kuhisi baridi? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Kuhisi njaa? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Kuhisi kiu? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Kuumwa kichwa? | ☐ | ☐ | ☐ | ☐ | ☐ |

| **Hofu na wasiwasi** | | | | | |
|---|---|---|---|---|---|
| Ni kwa kiwango gani uliogopa kuhusu : | **Hapana kabisa** | **Kidogo** | **Kwa kiasi** | **Kimya kidogo** | **Sana** |
| 1. Haukuamka baada ya upasuaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Kuamka wakati wa operesheni ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Kuendelea kukiona chumba cha Upasuwaji ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Kuhisi maumivu kwa sababu ya daktari mpasuaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Makosa ya daktari mpasuaji ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Kuhisi maumivu kwasababu ya muuguzi wa usigizi na ganzi ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Makosa ya muuguzi wa usigizi na ganzi ? | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | |
|---|---|---|
| 1. Je! Watoa huduma walikuwa makini kwa mahitaji yako? | ☐ Ndio | ☐ Hapana |
| 2. Je! Walitenda kulingana na mahitaji yako ? | ☐ Ndio | ☐ Hapana |
| 3. Je! Walishauriana na mtaalamu mwingine wa afya? | ☐ Ndio | ☐ Hapana |
| 1. je! Uliona umairi wa kitaalam | ☐ Ndio | ☐ Hapana |

| **Mahusiano ya mtoa huduma na Mgonjwa** | | | | | |
|---|---|---|---|---|---|
| Ni kwa kiwango gani . . . | **Sijaridhika kabisa** | **Sijaridhika** | **Sijaridhika wala kuridhika** | **Nimeridhika kiasi** | **Nimeridhika Kabisa** |
| 1. Watoa huduma wa chuba cha upasuaji walizingatia usiri wako ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2. Ulikuwa na imani na wafanyikazi wa kituo cha chumba cha upasuwaji? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3. Watua huduma ndani ya chumba cha upasuwaji walikuwa na mtazamo wazi ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4. Watua huduma ndani ya chumba cha upasuwaji walikuwa na heshima ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5. Watoa huduma ndani ya chumba cha upasuwaji walionyesha uelewa na hali yako ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6. Watoa huduma ndani ya chumba cha upasuwaji walikuwa na adabu? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7. Uliwakuta watoa huduma ndani ya chumba cha upasuaji ni wenye taaluma ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 8. Watoa huduma ndani ya chumba cha upasuaji walikuwa wasikivu kwa maswali yako ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 9. Watoa huduma ndani ya chumba cha upasuaji walikuwa watiifu wa malalamiko yako, kama vile maumivu na kichefuchefu ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 10. Watoa huduma ndani ya chumba cha upasuaji walikuwa wasikivu kwa mapendekezo yako ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 11. Watoa huduma ndani ya chumba cha upasuaji walizingatia asili yako ya kitamaduni | ☐ | ☐ | ☐ | ☐ | ☐ |
| 12. Uliwaona wafanyakazi wa chumba cha upasuaji kuwa ni wajuzi kitaaluma ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 13. Watoa huduma ndani ya chumba cha upasuaji walikusikiliza wewe kama mtu binafsi ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| 14. Walikuchukulia kwa wema watoa huduma wa chumba cha upasuaji ? | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Huduma ndani ya chumba cha Upasuaji** | | | | | |

| 1. Je! Ulifanyiwa upasuaji kwa tarehe na wakati uliopangwa? | ☐ Ndio | | ☐ Hapana | |
|---|---|---|---|---|
| | Muda mrefu sana | Muda mrefu kiasi | Muda wa wastani | Muda fupi mno |
| 2. Je, ulipata uzoefu gani wa muda wa kusubiri kati ya muda wa kufika inapotolewa huduma ya upasuaji na muda wa kufanyiwa upasuaji ? | ☐ | ☐ | ☐ | ☐ |
| 3. Je, ulipata uzoefu gani wa muda wa kusubiri kati ya muda uliotumia ndani ya chumba cha kuhamka na wakati wa kuondoka kwako kutoka mahali inapotolewa huduma ya upasuaji? | ☐ | ☐ | ☐ | ☐ |

## CONSENT FORM - ENGLISH VERSION

**CONSENT TO PARTICIPATE IN THE STUDY, ASSESMENT OF PATIENT SATISFACTION WITH ANESTHETIC CARE AND ASSOCIATED FACTORS AT MOI.**

Dear Sir/Madam,

Greetings, my name is Dr. Djaffar said, a resident doctor in the Department of anaesthesiology at MUHAS. I am conducting a study regarding Patient satisfaction with anaesthetic care and associated factors at MOI.

I am requesting your participation.

**PURPOSE OF THE STUDY:** evaluate the level of patient satisfaction with perioperative anaesthetic care and determine the factors that influence this satisfaction.
**HOW TO PARTICIPATE:** Patients who will be ready to participate will sign this consent form to approve his/her willingness. Therefore short interview will be done.
**CONFIDENTIALITY:** Information obtained from you will be confidential and will be helpful in this study and allow establishing a plan to improve care in the future.
**COSTS:** No payment is required for your participation.
**VOLUNTARY PARTICIPATION AND RIGHTS TO WITHDRAW:**
The participation is voluntary and you have the right to withdraw from participating in the study at any time. Whatever your decision may be, it will not affect in any way, your rights of care.
**RISKS:** No risk is expected.
**BENEFITS:** Your participation in this study will help us to get a direct feedback from patient about how is anaesthetic care.
I wish that the information from this research will be useful to improve the quality of care.
**CONTACT PERSONS:**
If you have any inquiries about this study, please do not hesitate to contact:
Dr. Djaffar said
Principal Investigator
Muhimbili University of Health and Allied Sciences (MUHAS)
Department of Anaesthesiology
P.O. Box 65001 Dar Es Salaam.
Tel.+255 622337054.

OR in case of any information about your rights as a participant in this study please contact:

**Dr EDWIN LUGAZIA**
Research Supervisors and Head of Department of Anaesthesiology MUHAS
P.O. Box 65001 Dar Es Salaam
Simu: +255 713283900

**Dr BRUNO SUNGAYA**
Chairman, MUHAS Research and Ethics Committee
Muhimbili University of Health and Allied Sciences (MUHAS)
P.O. Box 65001 Dar es Salaam

Tel. +255685217272

I will be grateful if you would agree to participate in this study.
I _____have understood the above information and my questions have been answered by the investigator to my satisfaction. I willingly agree to take part in this research.
Name of the participant: _____
Signature of the participant: _____Date _____
Signature of Investigator _____ Date: _____

## CONSENT FORM - SWAHILI VERSION

### FOMU YA MAKUBALIANO YA KUSHIRIKI KATIKA UTAFITI

Habari! Mimi ni Dk. Dr. Djaffar said, ni Daktari katika shahada ya Uzamili katika Chuo Kikuu Cha Sayansi za Tiba cha Muhimbili. Nafanya utafiti kuhusu kuridhika kwa mgonjwa na huduma ya usigizi ameipata na mambo yanayohusiana Muhimbili hospitali.

Ninaomba ushirikiano wako.

**Nia ya Utafiti**: tathmini kiwango cha kuridhika kwa mgonjwa na huduma ya usigizi na uone sababu zinazoshawishi kuridhika kwa mgonjwa.

**Jinsi ya Kushiriki:**
Wagonjwa ambao watakuwa tayari kushiriki watasaini fomu hii ya idhini ili kukubali ridhaa yake. Kwa hivyo mahojiano mafupi yatafanywa.

**Usiri:**

Habari inayopatikana kutoka kwako itakuwa ya siri na itakuwa na msaada katika utafiti huu na kuruhusu kuanzisha mpango wa kuboresha utunzaji katika siku zijazo.

**Gharama:** Hamna Malipo yoyote inahitajika kwa ushiriki wako.

**Utayari wakushiriki au kujitoa**:
Ushiriki huo ni wa hiari na una haki ya kujiondoa kutoka kwa kushiriki katika utafiti wakati wowote. Lakini uamuzi wako hohote, hautaathiri kwa njia yoyote, haki zako za kupata tiba.

**Hatari:**

Hamna hatari yoyote inatarajiwa.

**Faida:**

Ushiriki wako katika utafiti huu utatusaidia kupata maoni moja kwa moja kutoka kwa mgonjwa kuhusu jinsi huduma ya usigizi ilivyo.
Natumaini kuwa habari kutoka kwa utafiti huu itasaidia kuboresha ubora ya huduma.
Nitakushukuru kwa kushiriki kwako utafiti huu. Ahsante.

**mawasiliano**
Ikiwa una maoni yoyote juu ya utafiti huu, tafadhali usisite kuwasiliana:
Dk. Djaffar Said
Mpelelezi mkuu
Chuo Kikuu cha Afya na Sayansi za Muhimbili (MUHAS)
Idara ya Anesthesiology
P.O. Box 65001 Dar Es Salaam.
Simu +255 622337054
**AU**

Endapo utakuwa na swali lolote kuhusu haki zako kama mshiriki katika utafiti huu wasiliana na:

**Dr EDWIN LUGAZIA**
Msimamizi wa Utafiti na Mkuu wa Idara ya Anaesthesiology MUHAS

P.O. Box 65001 Dar Es Salaam
Simu: +255 713283900

**Dr BRUNO SUNGAYA**
Mwenyekiti, Kamati ya Utafiti na Maadili ya MUHAS
Muhimbili University of Health and Allied Sciences (MUHAS)
P.O. Box 65001 Dar es Salaam
Simu. +255685217272

Mimi……nimeelezwa/nimesoma yaliyomo katika fomu hii na nimeelewa maana yake. Nakubali kushiriki katika utafiti huu.

Sahihi……..(Mshiriki) Tarehe……..

Sahihi…….. ( Mtafiti) Tarehe……..

## ETHICAL CLEARENCE

**UNITED REPUBLIC OF TANZANIA**

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

**OFFICE OF THE DIRECTOR - RESEARCH AND PUBLICATIONS**

Ref. No.DA.282/298/01.C/ Date: 20/11/2020

**MUHAS-REC-11-2020-432**

Djaffar Said,
MMed - in Anaesthesiology,
School of Medicine,
**MUHAS**

**RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED: Assessment of Patient satisfaction with anaesthetic care and associated factors at Muhimbili Orthopedic Institute (MOI)**

Reference is made to the above heading.

I am pleased to inform you that the Chairman has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 20/11/2020
EXPIRATION DATE OF APPROVAL: 19/11/2021

**STUDY DESCRIPTION:**
**Purpose:**
The purpose of this Observational Cross sectional study is to evaluate the level of patient satisfaction with peri-operative anaesthetics care and determine the factors that influence this satisfaction.

The approved protocol and procedures for this study is attached and stamped with this
letter, and can be found in the link provided:
https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%2015.pdf and in the MUHAS
archives.

**The PI is required to:**

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain data transfer agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain data transfer agreement (DTA) from NIMR if data will be transferred to a foreign country.
8. Apply for and obtain material transfer agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country,
9. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
10. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
11. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website https://drp.muhas.ac.tz/




Dr. Bruno Sunguya
**Chairman, MUHAS Research and Ethics Committee**

## APPROVAL FOR DATA COLLECTION

MUHIMBILI ORTHOPAEDIC INSTITUTE

P.O. Box 65474; DAR ES SALAAM, TANZANIA, MUHIMBILI COMPLEX
Executive Director: +255-022-2153359
General lines: +255-022-2151298/2152937/2152938
FAX: +255-022-2151744
E-Mail: info@moi.ac.tz
Website: www.moi.ac.tz
OFFERING SERVICES IN ORTHOPAEDICS, NEUROSURGERY AND TRAUMATOLOGY

**AB.145/146/02/79** **22nd December;2020**

Director,
Postgraduate studies,
Muhimbili University of Health and Allied Sciences,
P.O. Box 65001,
Dar es Salaam

**RE: APPROVAL FOR PERMISSION TO CONDUCT A RESEARCH AT MOI**

Reference is made to your letter dated**23rdNovember2020**with the above-mentioned heading.

On behalf of the management of the institute (MOI), I would like to officially inform you thatpermission has been granted foryour request for **Djaffar Said** to conduct a studytitled'***Assessment of patient satisfaction with anaesthetic care and associated factors atMuhimbili Orthopedics Institute'*** *has been approved. Therefore, you're very kindly requested to inform him to start data collections as requested.*

It's my hope that you will extend enough cooperation's regarding this matter.

**Abdallah Mbuguni**
**For:Executive Director.**

**Cc: Medical Doctor-MOI**